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Claims

- 1. A process for the preparation of an unsupported olefin polymerisation catalyst comprising:
- a) reacting an aluminoxane and a Lewis base in an optionally halogenated hydrocarbon solvent to form a particulate suspension;
- b) reacting said suspension with a metallocene complex in an optionally halogenated hydrocarbon solvent: and
- c) isolating the olefin polymerisation catalyst; wherein said Lewis base is phenol, benzyl alcohol, aniline, benzylamine, ethylene glycol, glycerol, bisphenol, triethanolamine, butanediol, 4,4'-isopropylidenediphenol, 3-hydroxypropylene oxide or 1,4-butanediol diglycidyl ether or a mixture thereof.
- 2. A process as claimed in claim 1 wherein said aluminoxane is MAO.
- 3. A process as claimed in any one of claims 1 or 2 wherein the optionally halogenated hydrocarbon solvent used during step a) is an optionally halogenated C_{4-12} alkane or C_{5-12} arylene.
- 4. A process as claimed in claim 3 wherein said hydrocarbon solvent is toluene or xylene.
- 5. A process as claimed in any one of claims 1 to 4 wherein the solvent employed in step b) is the same as that employed in step a).
- 6. A process as claimed in any one of claims 1 to 5 wherein the ratio of aluminium in the aluminoxane to

 Lewis base is 5 to 40 mol/mol.
 - 7. A process as claimed in any one of claims 1 to 6

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wherein the metallocene complex is bis(n-Bu-cyclopentadienyl) zirconium dichloride.

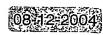
- 8. A process as claimed in any one of claims 1 to 7
 wherein the molar ratio between aluminium in the
 aluminoxane and the transition metal in metallocene is
 in the range 20:1 to 1000:1.
- 9. A catalyst obtainable a process as claimed in any one of claims 1 to 8.
 - 10. The use of a catalyst as claimed in claim in olefin polymerisation.
- 11. Use of the reaction product of an aluminoxane and a Lewis base to form a catalyst carrying suspension in an optionally halogenated hydrocarbon solvent wherein said Lewis base is phenol, benzyl alcohol, aniline, benzylamine, ethylene glycol, glycerol, bisphenol, triethanolamine, butanediol, 4,4'isopropylidenediphenol, 3-hydroxypropylene oxide or 1,4-
- 12. A process for the preparation of polyolefins
 25 comprising polymerising at least one olefin in the
 presence of an olefin polymerisation catalyst as claimed
 in claim 9.

butanediol diglycidyl ether or a mixture thereof.

- 13. A process as claimed in claim 12 wherein said polymerisation takes place in the slurry phase.
 - 14. A process for the preparation of a prepolymerised olefin polymerisation catalyst comprising:
- a) reacting an aluminoxane and a Lewis base in an optionally substituted hydrocarbon solvent to form a particulate suspension;
 - b) reacting said suspension with a metallocene

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complex in an optionally substituted hydrocarbon solvent to form a catalyst;

- c) prepolymerising said catalyst in the presence of an olefin; and
- d) isolating the prepolymerised catalyst;
 wherein said Lewis base is phenol, benzyl alcohol,
 aniline, benzylamine, ethylene glycol, glycerol,
 bisphenol, triethanolamine, butanediol, 4,4'isopropylidenediphenol, 3-hydroxypropylene oxide or 1,4butanediol diglycidyl ether or a mixture thereof.

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AMENDED SHEET

